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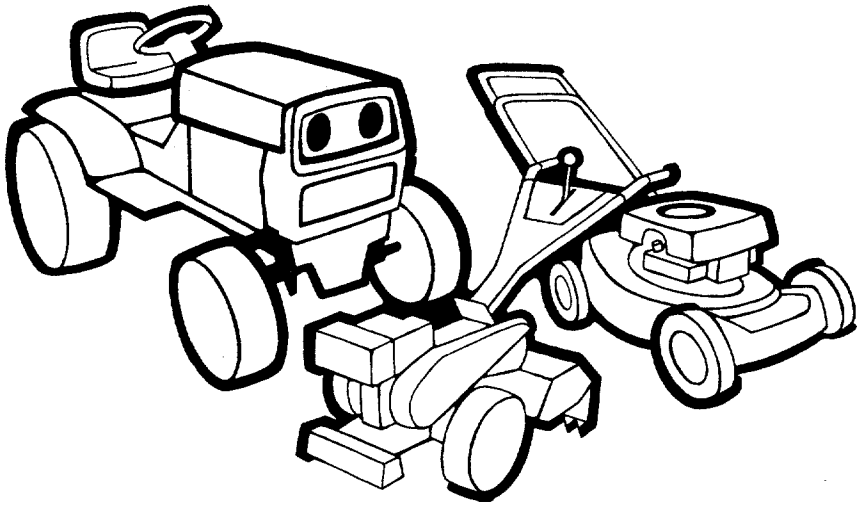
OWNERS MANUAL



22″ SELF-PROPELLED ROTARY MOWER

ASSEMBLY
OPERATION
MAINTENANCE
PARTS LIST

Model Number
124-284-000

Important:
Read Safety Rules and Instructions Carefully

Thank you for purchasing an American built product.

PRINTED IN U.S.A.

FORM NO. 770-3154

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LIMITED WARRANTY

For one year from the date of original retail purchase, MTD PRODUCTS INC will either repair or replace, at its option, free of charge, F.O.B. factory or authorized service firm, any part or parts found to be defective in material or workmanship. Transportation charges for the movement of any power equipment unit or attachment are the responsibility of the purchaser. Transportation charges for any parts submitted for replacement under this warranty must be paid by the purchaser unless such return is requested by MTD PRODUCTS INC.

This warranty will not apply to any part which has become inoperative due to misuse, excessive use, accident, neglect, improper maintenance, alterations, or unless the unit has been operated and maintained in accordance with the instructions furnished. This warranty does not apply to the engine, motor, battery, battery charger or component parts thereof. Please refer to the applicable manufacturer's warranty on these items.

This warranty will not apply where the unit has been used commercially.

Warranty service is available through your local authorized service dealer or distributor. If you do not know the dealer or distributor in your area, please write to the Customer Service Department of MTD.

The return of a complete unit will not be accepted by the factory unless prior written permission has been extended by MTD.

This warranty gives you specific legal rights. You may also have other rights which vary from state to state.

WARNING

This unit is equipped with an internal combustion engine and should not be used on or near any unimproved forest-covered, brush-covered or grass-covered land unless the engine's exhaust system is equipped with a spark arrester meeting applicable local or state laws (if any). If a spark arrester is used, it should be maintained in effective working order by the operator.

In the State of California the above is required by law (Section 4442 of the California Public Resources Code). Other states may have similar laws. Federal laws apply on federal lands. A spark arrester muffler is available at your nearest engine authorized service center.

WARNING

To reduce the potential for any injury, comply with the following safety instructions. Failure to comply with the instructions may result in personal injury.

SAFE OPERATION PRACTICES FOR WALK-BEHIND MOWERS

TRAINING

1. Read this owner's manual carefully in its entirety before attempting to assemble or operate this machine. Be completely familiar with the controls and the proper use of this machine before operating it. Keep this manual in a safe place for future and regular reference and for ordering replacement parts.
2. Your rotary mower is a precision piece of power equipment, not a plaything. Therefore, exercise extreme caution at all times.
3. Never allow children to operate a power mower. Only persons well acquainted with these rules of safe operation should be allowed to use your mower.
4. Keep the area of operation clear of all persons, particularly small children and pets. Stop engine when they are in the vicinity of your mower. Although the area of operation should be completely cleared of foreign objects, an object may have been overlooked and could be accidently thrown by the mower in any direction and cause serious personal injury to the operator or any others allowed in the area.

PREPARATION

1. Thoroughly inspect the area where the equipment is to be used. Remove all stones, sticks, wire, bones and other foreign objects which could be picked up and thrown by the mower in any direction and cause serious personal injury to the operator or any others allowed in the area.
2. Do not operate equipment when barefoot or wearing open sandals. Always wear substantial footwear.
3. Do not wear loose fitting clothing that could get caught on the mower.
4. Check the fuel before starting the engine. Gasoline is an extremely flammable fuel. Do not fill the gasoline tank indoors, while the engine is running, or while the engine is still hot. Wipe off any spilled gasoline before starting the engine as it may cause a fire or explosion.
5. Disengage the self-propelled mechanism or drive clutch on units so equipped before starting the engine.
6. The blade control handle is a safety device. Never attempt to bypass its operation. Doing so makes the safety device inoperative and may result in personal injury through contact with the rotating blade. The blade control handle must operate easily in both directions.
7. Never attempt to make a wheel or cutting height adjustment while the engine is running.
8. Mow only in daylight or in good artificial light.
9. Never operate the equipment in wet grass. Always be sure of your footing. A slip and fall can cause serious personal injury. Keep a firm hold on the handle and walk, never run.

OPERATION

1. Do not change the engine governor settings or overspeed the engine. Excessive engine speeds are dangerous.
2. Do not put hands or feet near or under rotating parts. Keep clear of the discharge opening at all times as the rotating blade can cause injury.
3. Stop the blade when crossing gravel drives, walks or roads.
4. After striking a foreign object, stop the engine, remove the wire from the spark plug, and thoroughly inspect the mower for any damage. Repair the damage before restarting and operating the mower.
5. If the equipment should start to vibrate abnormally, stop the engine and check immediately for the cause. Vibration is generally a warning of trouble.
6. Shut the engine off and wait until the blade comes to a complete stop before removing the grass catcher or unclogging the chute. The cutting blade continues to rotate for a few seconds after the engine is shut off. Never place any part of the body in the blade area until you are sure the blade has stopped rotating.
7. Before cleaning, repairing or inspecting, make certain the blade and all moving parts have stopped. Disconnect the spark plug wire, and keep the wire away from the spark plug to prevent accidental starting.
8. Do not run the engine indoors.
9. Mow across the face of slopes, never up-and-down. Exercise extreme caution when changing direction on slopes. Do not mow excessively steep slopes. Always be sure of your footing. A slip and fall can cause serious personal injury.
10. Always disconnect electric mowers (line operated) before cleaning, repairing or adjusting.
11. Never operate mower without proper guards, plates or other safety protective devices in place.

MAINTENANCE AND STORAGE

1. Check the blade and engine mounting bolts at frequent intervals for proper tightness.
2. Keep all nuts, bolts, and screws tight to be sure the equipment is in safe working condition.
3. Never store the equipment with gasoline in the tank inside of a building where fumes may reach an open flame or spark. Allow the engine to cool before storing in any enclosure.
4. To reduce fire hazard, keep the engine free of grass, leaves, or excessive grease.
5. Check the grass catcher bag frequently for wear or deterioration. For safety protection, replace only with new bag meeting original equipment specifications.

SAFE OPERATION PRACTICES (Continued)

BLADE BRAKE/CLUTCH MAINTENANCE

NOTE: Any required repair work on the blade brake/clutch should be performed by an authorized service dealer. If you cannot locate an authorized service dealer, contact the manufacturer as set forth on your copy of the Owner's Registration Card.

1. **The blade brake/clutch hand control is a safety device. Never attempt to bypass its operation.** Doing so makes the safety device inoperative and may result in personal injury through contact with the rotating blade. This hand control must operate freely in both directions.
2. Striking a solid object can cause damage to the blade brake/clutch or to the engine crankshaft. Extensive vibration of the mower during operation is an indication of damage and the unit should be promptly inspected and repaired.
3. A leak in the lower engine crankshaft oil seal could expose the blade brake/clutch friction pads to excess oil resulting in blade or brake slippage, which could increase the stopping time of the blade. Oil collection on the floor beneath the mower during storage may be an indication of an oil seal leak. The unit should be checked by an authorized service dealer.
4. Periodically inspect the inner control cable in the area where it attaches to the hand control. If the cable becomes frayed, it could cause the blade brake/clutch to operate improperly. Also, be careful to avoid pinching the blade brake/clutch control cable when storing the handle.

NOTE

This unit is shipped WITHOUT GASOLINE or OIL. After assembly, see separate engine manual for proper fuel and engine oil recommendations.

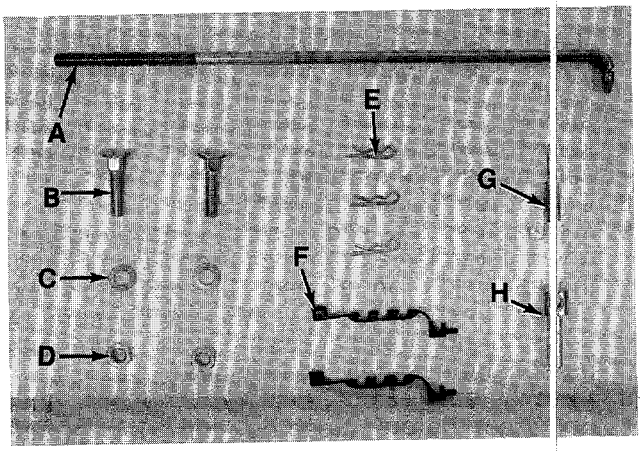


FIGURE 1.

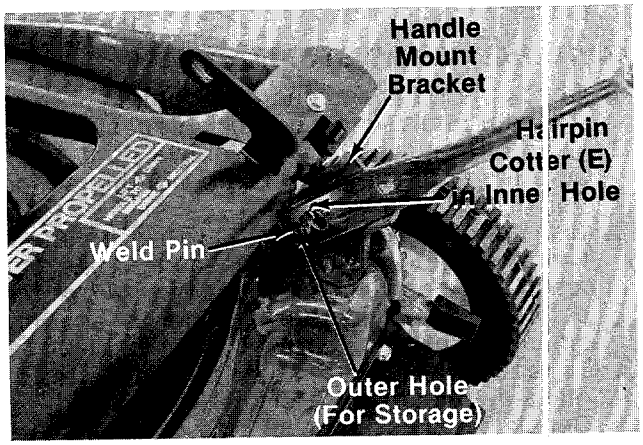


FIGURE 2.

ASSEMBLY

Contents of Hardware Pack: (See figure 1)

A (1) Clutch Rod
B (2) Curved Carriage Bolts 5/16-18 x 1.38″ Long
C (2) Lock Washers 5/16″ I.D.
D (2) Hex Nuts 5/16-18 Thread
E (3) Hairpin Cotters
F (2) Cable Ties
G (1) Spring
H (1) Ferrule
I (4) Hub Caps (Optional—Not Shown)

1. Remove the lawn mower, loose parts, hardware pack and literature from the carton. Make certain all parts and literature have been removed before the carton is discarded.
2. Extend the throttle control cable (attached to upper handle) and blade brake/clutch cable (attached to blade brake/clutch beneath deck) and place on the floor. Be careful not to bend or kink control cables.
3. Place lower handle in position over weld pins in handle mount brackets on deck. Make certain the instruction label on the lower handle can be read from the operating position. Secure by placing two hairpin cotters (E) in inner hole on weld pins. See figure 2.

NOTE

It may be necessary to bend the ends of the lower handle outward slightly to obtain a snug fit against the bracket.

NOTE

There are two (2) holes in the handle mount brackets. Place hairpin cotter in the inner hole for operation. The outer hole is for storage.

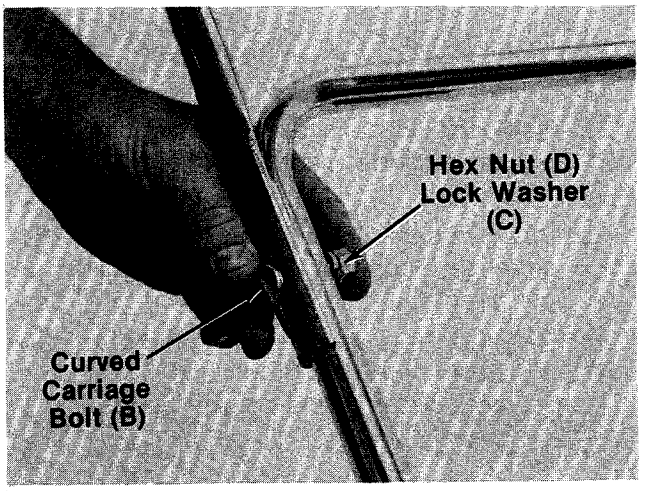


FIGURE 3.

4. Place upper handle in position over lower handle. Control housing should be on the **left** side of the handle. Secure with two carriage bolts (B), lock washers (C) and hex nuts (D) as shown in figure 3.

NOTE

Reference to left or right side of machine is determined from operator's position at the handle facing forward.

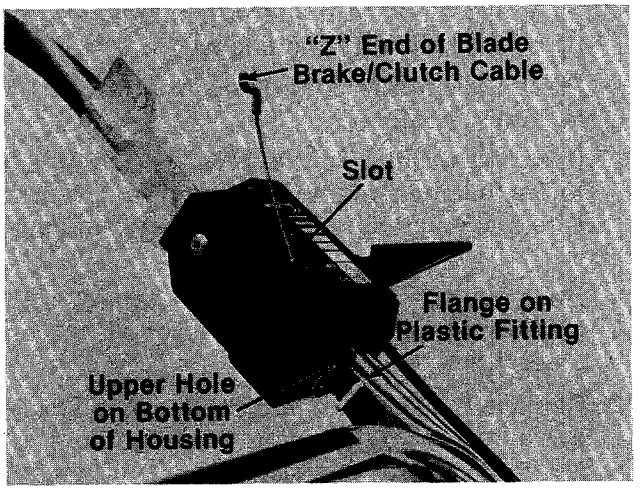


FIGURE 4.

5. Route the blade brake/clutch cable under the lower handle. Place end of cable into the upper hole on the bottom of the control housing, and through the slot on the side of the housing as shown. The angle of the flange on the plastic fitting must be positioned downward as shown in figure 4. Be careful not to bend or kink the cable.

WARNING

The cable must be assembled as shown for proper blade brake/clutch operation.

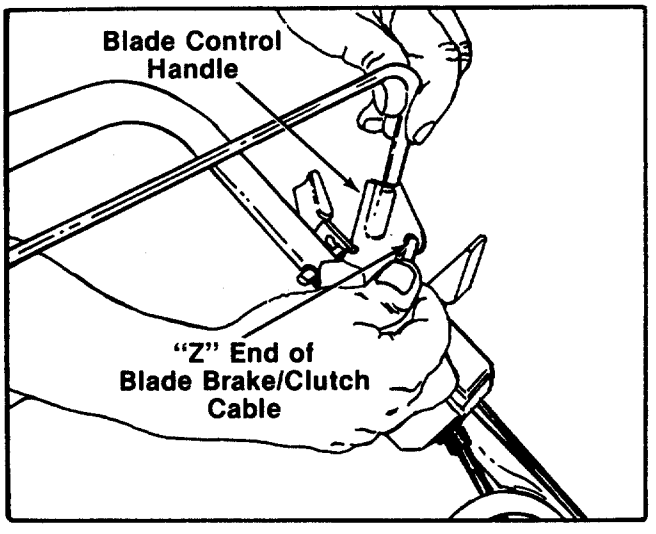


FIGURE 5.

6. Snap the plastic fitting on the end of the cable into the control housing.
7. Hook the "Z" end of the blade brake/clutch cable into the hole in the blade brake/clutch control handle. See figure 5. If additional slack is needed in order to hook the cable into the handle, proceed as follows.

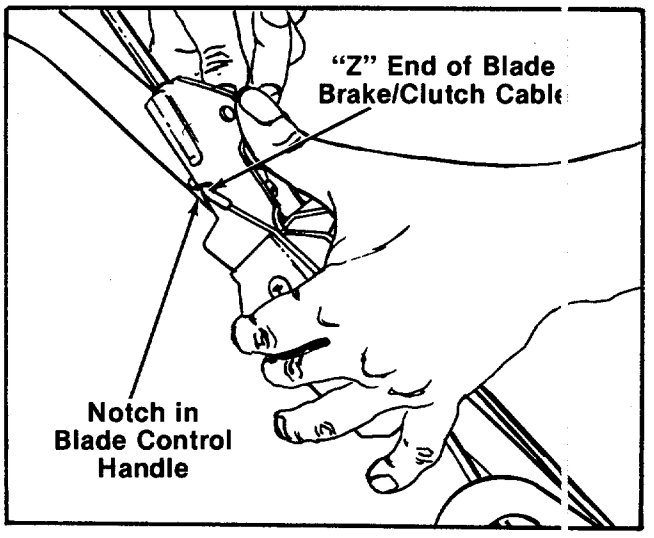


FIGURE 6.

a. Hook the "Z" end of the cable into notch provided in the blade control handle. See figure 6.

b. Push release lever (see figure 13), then squeeze blade control handle against upper handle.

c. Release the blade control handle, unhook the cable from the notch and hook it into the hole in the blade control handle.

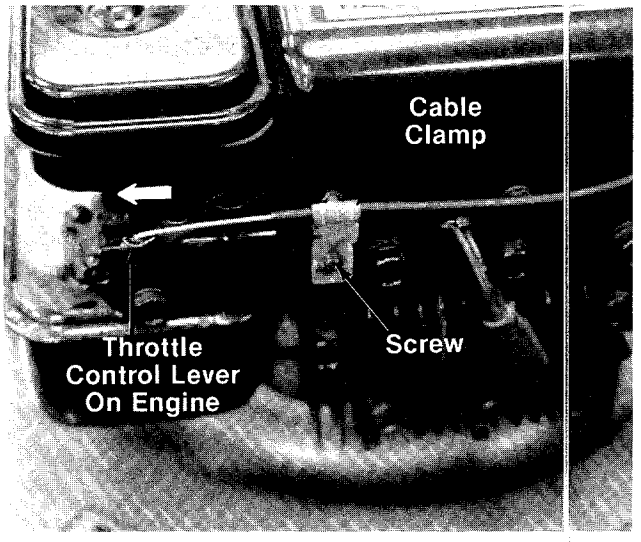


FIGURE 7.

8. Remove the engine shroud if the unit is so equipped. Replace it after attaching the throttle control cable to the engine.

9. Place the throttle control lever on the handle in "Fast" position.

10. Push the throttle control lever on the engine to the full open position (as far toward the outside of the unit as it will go) as shown in figure 7.

11. Hook the "Z" end of the throttle control cable into the hole in the control lever on the engine.

12. Remove the screw on the cable clamp shown in figure 7. Slip the control casing under the clamp. With the throttle lever on the engine still in the full open position, replace and tighten the screw to secure the throttle control cable.

13. Loosen the screw on the clamp on the side of the engine. Secure the cable **away from the muffler.** Be careful not to bend or kink the cable. Tighten the screw.

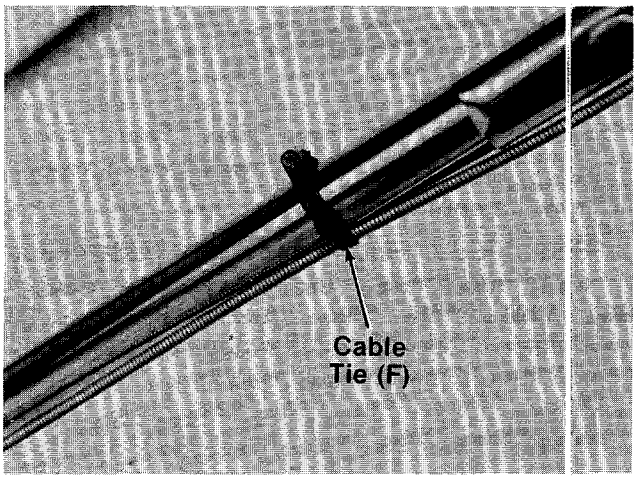


FIGURE 8.

14. Secure throttle control cable and blade brake/clutch cable to upper and lower handles with cable ties (F) provided. See figure 8.

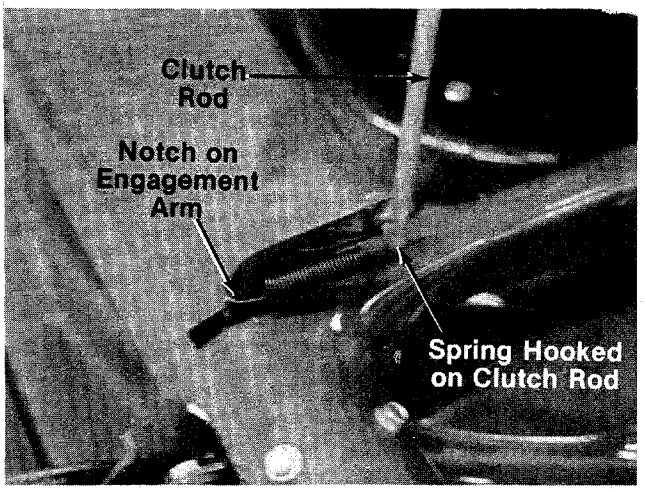


FIGURE 9.

NOTE

The clutch rod must be readjusted each time the cutting height is changed. Therefore, set the desired cutting height (refer to page 10) before proceeding with the clutch rod assembly.

15. Thread the ferrule (H) onto the threaded end of the clutch rod (A) a few turns.
16. Hook the short end of the spring (G) into the notch on the engagement arm. See figure 9. Hook the longer end of the spring into the notch on the bent end of the clutch rod.
17. Pull the clutch rod forward and slip it into the slot on the engagement arm as shown in figure 9.

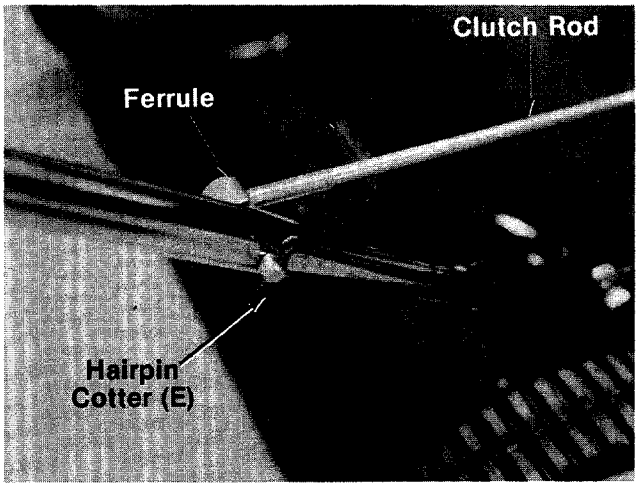


FIGURE 10.

18. Pivot the clutch rod back. Raise the handle slightly and thread the ferrule onto the clutch rod until the ferrule lines up with the hole in the lower handle. Secure ferrule in handle with hairpin cotter (E) as shown in figure 10. Check for 1/16" clearance between drive pinion and drive wheels with the handle released. **Refer to Clutch Rod Adjustment** on page 10.
19. Check **all** nuts and bolts for correct tightness.

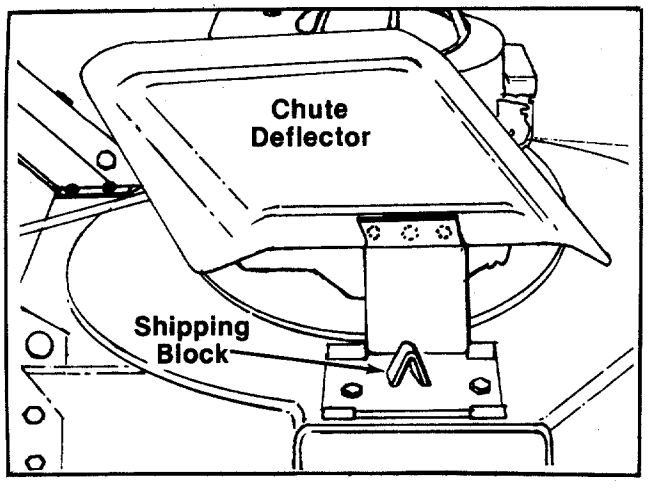


FIGURE 11.

CAUTION

Please note that the chute deflector on your mower is in an upright position. It is held in that position by a shipping block. This block is used for shipping purposes only. It must be removed and discarded before your mower is put into operation. See figure 11.

CONTROLS

THROTTLE CONTROL

The throttle is located on the left side of har dle. It controls engine speed. See figure 12.

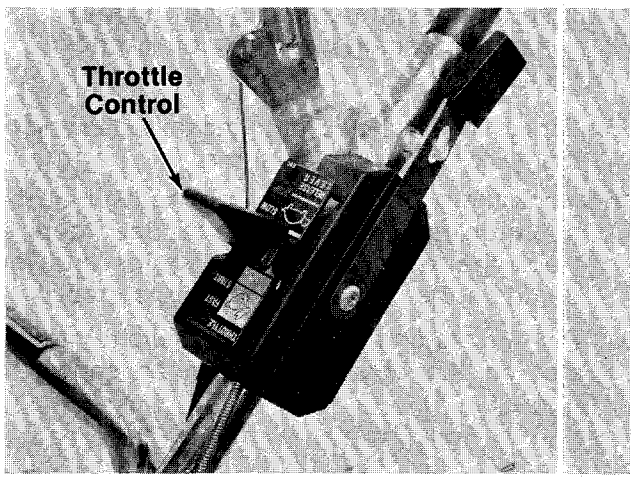


FIGURE 12.

BLADE BRAKE/CLUTCH CONTROL

WARNING
THIS CONTROL MECHANISM IS A SAFETY DEVICE. NEVER ATTEMPT TO BYPASS ITS OPERATIONS.

The blade brake/clutch control is located on the upper handle of the mower. The blade brake/clutch handle engages and disengages the blade.

To engage the blade, pull the side release lever away from the unit. See figure 13. Pull the blade brake/clutch control handle against the upper handle. Release side lever.

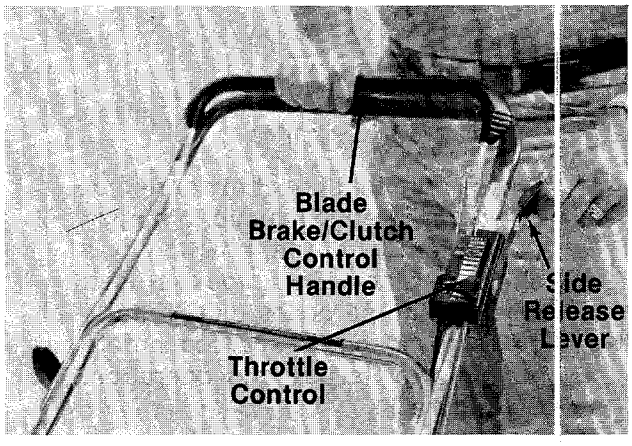


FIGURE 13.

Release the blade brake/clutch control handle to stop the blade from turning.

SELF-PROPELLED DRIVE MECHANISM

To engage the drive mechanism, move the handle forward. The drive pinions will engage with the gear tread tires, and the unit will self-propel.

To stop the forward drive, lower the handle. The unit will be free-wheeling. Self-propelled drive is resumed when handle is raised.

OPERATION

Caution
Do Not Operate Mower Unless This Guard Or Entire Grasscatcher Is In Its Proper Place.
DANGER
KEEP HANDS and FEET AWAY
2196

FIGURE 14.

Keep hands and feet away from the chute area on cutting deck. See figure 14.

NOTE

For shipping purposes your mower is set with the wheels in a low cutting height position. For best results raise the cutting position until it is determined which height is best for your lawn. See cutting height adjustment.

BEFORE STARTING

1. Fill sump with oil, as instructed in the separate engine manual packed with your unit.
2. Fill fuel tank, using clean, fresh, lead-free, low-lead or regular grade leaded gasoline. Fill tank completely! DO NOT MIX OIL WITH GASOLINE.
3. Attach spark plug wire to spark plug.

4. Before each use, check drive assembly adjustment. When the handle is lifted, the clutch rod is moved to the self-propelled position. The black nylon drive pinions should mesh simultaneously with the gear tread tires. When the handle is released, the pinions should clear the wheels by approximately 1/16". See clutch rod adjustment on page 10 for further details.

WARNING

To make sure the clutch rod has been adjusted properly, take the following precaution when using your unit for the first time after making a clutch rod adjustment. Face the mower against a solid object such as a wall, fence, etc. Start the unit, and if it moves forward with the handle down in the freewheeling position, shut the engine off promptly. Refer to page 10 for further instructions on clutch rod adjustment.

START ENGINE

1. Move throttle control lever to "START" position.
2. With the blade brake/clutch handle **released,** crank engine by pulling recoil starter with a quick firm pull. Do not pull out so far that rope stops with a jerk as this will cause rope failure. Do not allow rope and handle to snap back into place.
3. After two or three full firm pulls on recoil, or as soon as engine starts, move throttle control to desired engine speed.

TO STOP

1. Move throttle control lever to "STOP" position.
2. Disconnect spark plug wire from spark plug and ground against the engine to prevent accidental starting while equipment is unattended.

TO ENGAGE THE BLADE

1. Start engine as instructed above. Allow the engine to warm up for one minute before attempting to engage the blade.
2. To engage the blade, pull the side release lever away from the unit. Pull the blade brake/clutch control handle down against the upper handle. Release the side lever. See figure 13.

NOTE

If a warm engine falters or stalls when attempting to engage the blade, refer to Carburetor Adjustment Section of this owner's manual.

3. Release the blade brake/clutch control handle to stop the blade from turning.

USING YOUR ROTARY MOWER

Be sure that lawn is clear of stones, sticks, wire, or other objects which could damage lawn mower or engine. Such objects could be accidently thrown by the mower in any direction and cause serious personal injury to the operator and others.

Operate a new engine at intermediate speeds and light load for the first few hours as you would a new automotive engine.

For best results, do not cut wet grass because it tends to stick to the underside of the mower, preventing proper discharge of grass clippings, and could cause you to slip and fall. New grass, thick grass or wet grass may require a narrower cut. Blade speed should be adjusted to the condition of the lawn.

The best mowing pattern is one that allows the clippings to discharge towards the uncut part of the lawn. This permits recutting of the clippings to further pulverize them. When cutting high weeds, discharge towards cut portion, then recut at right angles to first direction.

For best results, cut off one-third or less of the total length of the grass. Lawn should be cut in the fall as long as there is growth.

This mower is designed to be operated at full throttle to give you the best cut and do the most effective job of bagging the cut grass.

IMPORTANT

If you strike a foreign object, stop the engine. Remove wire from spark plug, thoroughly inspect the mower for any damage, and repair the damage before restarting and operating the mower. Striking a solid object can cause damage to the blade brake/clutch or to the engine crankshaft. Extensive vibration of the mower during operation is an indication of damage. The unit should be promptly inspected and repaired.

ADJUSTMENTS

CAUTION

Do not at any time make any adjustment to lawn mower without first stopping engine and disconnecting spark plug wire.

CUTTING HEIGHT

An adjusting plate and thumb lever at each wheel position provides cutting height adjustment. Each adjusting plate has nine positions. Height of cut will be changed when the thumb lever is moved from one hole to another. Simply depress the lever towards wheel and move wheel and lever assembly to desired position. See figure 15.

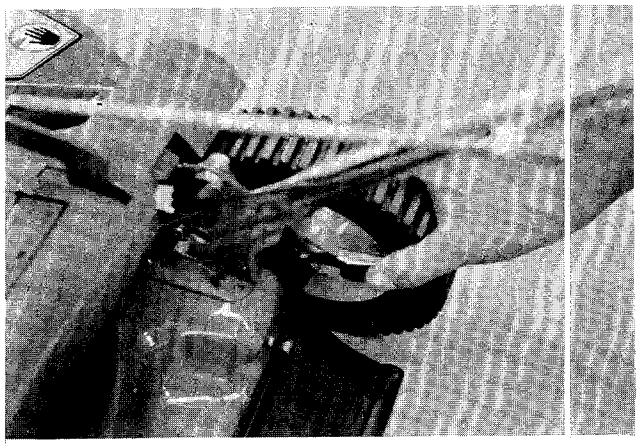


FIGURE 15.

Cutting height will be raised as the rear levers are lowered and the front levers are moved toward the front of the unit. Cutting height will be lowered as the rear levers are raised and the front levers are moved toward the rear of the unit. All wheels must be positioned at the same relative height.

For rough or uneven lawns, move the wheels to a position which will give a higher cutting height.

NOTE

Clutch rod **must** be adjusted each time cutting height is changed.

CLUTCH ROD ADJUSTMENT

The drive pinion should be approximately 1/16" from the drive wheels when the clutch is disengaged (handle is **not** pushed forward). See figure 16.

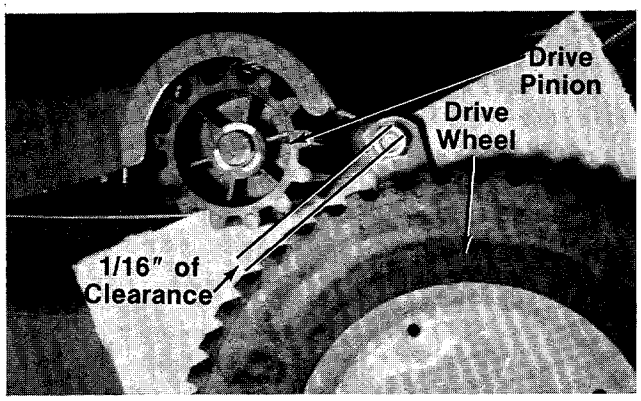


FIGURE 16.

If there is not 1/16" of clearance, proceed as follows:

1. Remove the cotter pin. See figure 10.
2. Pull the clutch rod and ferrule out of the lower handle.
3. Thread the ferrule on or off the rod as necessary.
4. Place ferrule back in position and secure with cotter pin. If the engagement and clearance are still not correct, repeat the above steps until 1/16" of clearance is obtained and the drive mechanism engages properly.

CHAIN ADJUSTMENT

Check for correct chain adjustment and alignment after first five to ten hours of operation. Adjust as follows:

1. Remove the hairpin cotter from the ferrule on the clutch rod.
2. Remove the ferrule and clutch rod from the lower handle.
3. Loosen (do not remove) the hex bolt on each side of the pinion pivot plate. See figure 17.
4. Pull back on the left side of the pivot plate, by hand, until the proper chain tension is achieved. Tighten the hex bolt.
5. Pull back on the right side of the pivot plate until the clearance between the pinion and wheel is equal on both sides. Tighten the hex bolt.
6. Readjust the clutch rod.
7. Recheck for correct adjustment periodically.

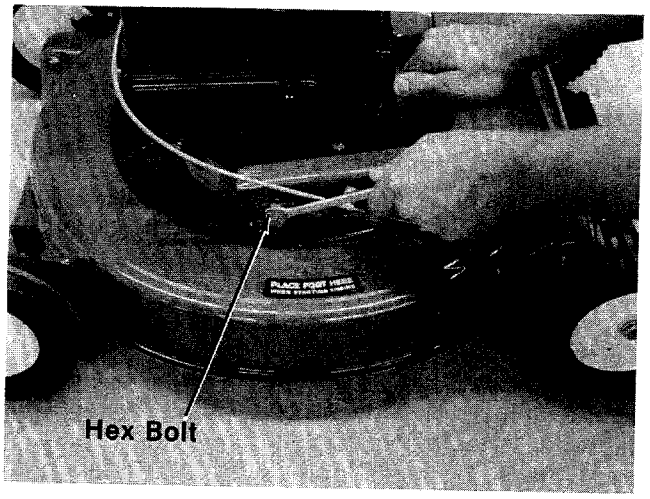


FIGURE 17.

THROTTLE

If adjustment becomes necessary, the throttle control wire assembly can be reset as follows:

1. Loosen, but do not remove, screw securing throttle control wire assembly at engine. Refer to figure 7.
2. Move throttle control lever on handle to "FAST" position.
3. Move lever, to which control wire is fastened at engine, to full open position and retighten screw to secure throttle control wire assembly.

CARBURETOR ADJUSTMENTS

WARNING

If any adjustments are made to the engine while the engine is running (e.g. carburetor), disengage all clutches and blades. Keep clear of all moving parts. Be careful of heated surfaces and muffler.

Minor carburetor adjustment may be required to compensate for differences in fuel, temperature, altitude and load. Refer to the separate engine manual packed with your mower.

NOTE

If a warm engine falters or stalls when attempting to engage the blade, the carburetor mixture should be adjusted 1/8 turn richer (counterclockwise). See figure 18.

The carburetor should be adjusted with the air cleaner in place and the blade control handle in the blade disengaged position.

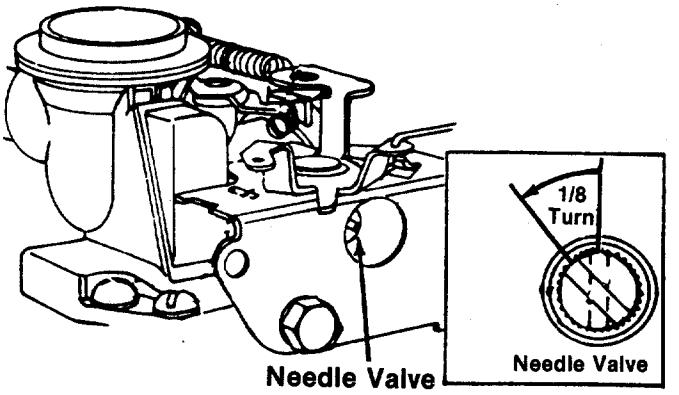


FIGURE 18.

LUBRICATION

IMPORTANT

Always stop engine and disconnect spark plug wire before cleaning, lubricating or doing any kind of work on lawn mower.

Blade Brake/Clutch—Lubricate the pivot points on the blade brake/clutch handle and the cable at least once a season with light oil. The control must operate freely in both directions.

Wheels—Mower may be provided with ball bearing wheels. Lubricate at least once a season with light oil. Also, if the wheels are removed for any reason, lubricate the surface of the axle bolt and the inner surface of the wheel with light oil. A 4 oz. plastic bottle of light oil lubricant is available. Order part number 737-0170. Engine oil may also be used.

Engine—Follow engine manual for lubrication instructions.

Chain—The chain should be lubricated periodically with a few drops of light oil to prevent any rust or binding. Use very little or no oil if unit is being used in a dusty or sandy area.

Chute Deflector—The torsion spring and pivot point should be lubricated periodically with light oil to prevent any rust or binding. Deflector must work freely.

Throttle—Periodically lubricate throttle control lever and throttle wire assembly with a few drops of light oil for ease of operation.

MAINTENANCE

WARNING

Be sure to disconnect and ground the spark plug wire before performing any repairs or maintenance.

CAUTION

When tipping the unit, empty the fuel tank and keep engine spark plug side up.

CUTTING BLADE

To remove the cutting blade for sharpening or replacement, remove the two hex nuts and lock washers which hold the blade to the blade brake/clutch. See figure 19.

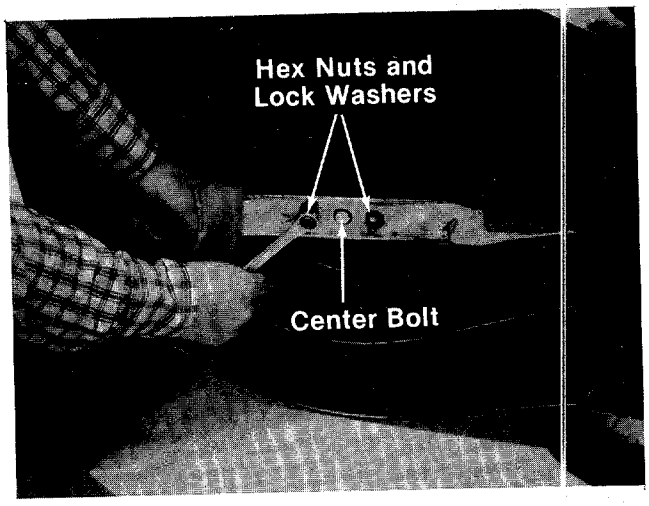


FIGURE 19.

When sharpening the blade, follow the original angle of grind as a guide. It is **extremely important** that each cutting edge receives an equal amount of grinding to prevent an unbalanced blade. An unbalanced blade will cause excessive vibration when rotating at high speeds, may cause damage to the mower and could break, causing personal injury.

The blade can be tested for balance by balancing it on a round shaft screwdriver. Remove metal from the heavy side until it balances evenly.

When replacing the blade, be sure to install the blade with the side of the blade marked "Bottom" (or with part number) facing the ground when the mower is in the operating position.

Blade Mounting Torque

Make certain that the center bolt which secures the blade brake/clutch and the two hex nuts which secure the blade are tightened to between 350 inch pounds (minimum) and 600 inch pounds (maximum).

To insure safe operation of your unit, **all** nuts and bolts must be checked periodically for correct tightness.

DECK

The underside of mower deck should be cleaned after each period of use as grass clippings, leaves, dirt and other matter will accumulate. This accumulation of grass clippings, etc., is undesirable as it will invite rust and corrosion and may cause an uneven discharge of grass clippings at the next cutting.

The deck may be cleaned by tilting the mower forward or on its side and scraping clean with a suitable tool or by washing with a stream of water from a garden hose.

CAUTION

Do not direct the stream of water at a hot engine as damage to the engine may result.

ENGINE OIL

Check oil level before starting and after every 5 hours of operation. ADD oil as necessary to keep level to full mark on dipstick. Before removing dipstick, clean area around dipstick to prevent dirt from entering oil fill opening. Engine should be in a level position when checking oil.

Change oil after first 5 hours of operation. Thereafter change every 25 hours. Change oil while engine is warm. Oil may be drained thru oil fill opening by tipping the unit on its side. Oil capacity 1-¼ pints.

AIR CLEANER

Service air cleaner every 25 hours under normal conditions. Clean every few hours under extremely dusty conditions. Poor engine performance and flooding usually indicates that the air cleaner should be serviced.

To service air cleaner, refer to the separate engine manual packed with your mower.

SPARK PLUG

The spark plug should be cleaned and the gap reset once a season. Spark plug replacement is recommended at the start of each mowing season; check engine manual for correct plug type and gap specifications.

BLADE BRAKE/CLUTCH

This unit is equipped with a blade brake/clutch. If for some reason the blade brake/clutch becomes inoperative, it is suggested that all repair work on the blade brake/clutch should be performed by an authorized service dealer. The unit should be inspected by an authorized service dealer if any of the following conditions are noticed.

1. Frayed clutch control cable.
2. Leaking oil seal (oil collection on the floor during mower storage).
3. Extensive vibration of the unit.

Blade Brake/Clutch Removal

1. Disconnect the spark plug wire and ground it against the engine block.
2. Empty fuel tank and drain oil from crankcase.
3. Remove the cable ties which secure control cables to the handle.
4. Disconnect the "Z" fitting on the blade brake/clutch cable from the clutch control handle.
5. Remove one truss machine screw on the inside of the control housing as shown in figure 20.
6. Loosen the truss machine screw on the outside of the control housing until the two halves of control housing can be separated enough for the control cable to be freed. Slide the blade brake/clutch cable out of the control housing.
7. Retighten the truss machine screws on the control housing.

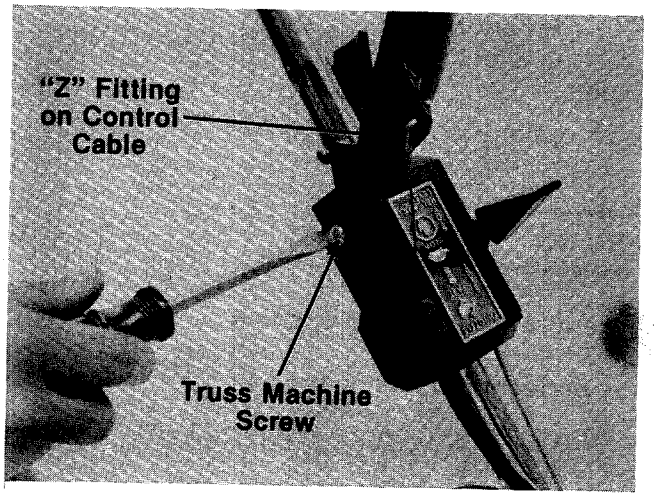


FIGURE 20.

8. Disconnect the throttle control cable from the engine by loosening screw on engine and disconnecting the "Z" fitting. See figure 21.

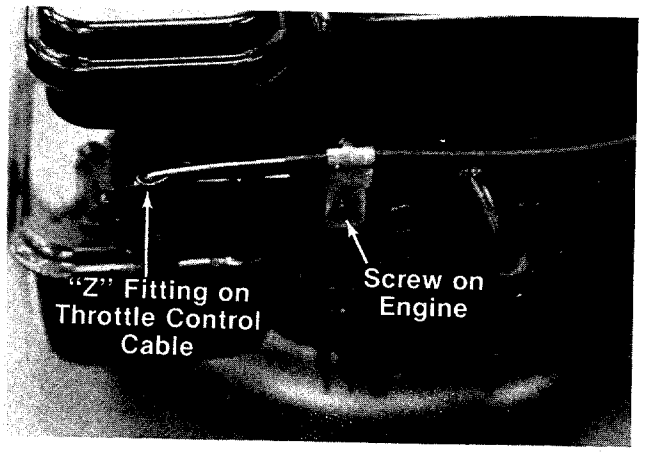


FIGURE 21.

9. Tip the mower on its side. Remove the blade by removing two hex nuts and lock washers. Refer to figure 19.

NOTE

When reassembling, tighten hex nuts to between 350 and 600 in. lbs.

10. Remove the center bolt as follows.
    a. Insert a screwdriver into the slot provided in the blade brake/clutch housing where the control cable enters housing. See figure 22.
    b. Place a 9/16" wrench on the center bolt. Turn the wrench slowly until the screwdriver catches in a groove provided inside the clutch. The screwdriver will now keep the clutch from turning, and the center bolt and two belleville washers may be removed.

IMPORTANT

Upon reassembly, be certain to tighten center bolt to between 350 and 600 in. lbs.

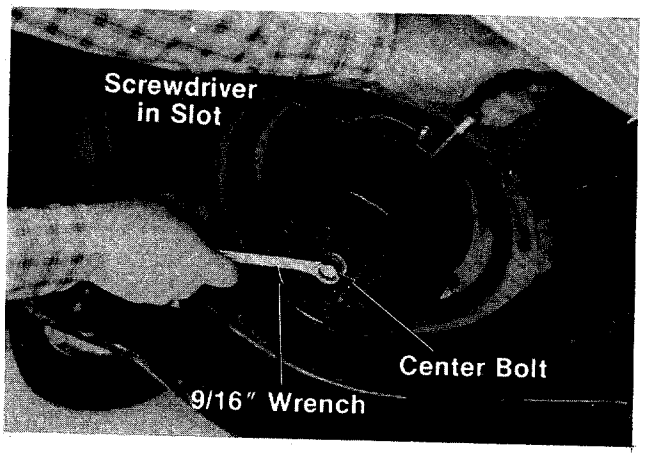


FIGURE 22.

11. Support the engine with one hand. Remove the three self-tapping screws which secure the deck and blade brake/clutch to the engine. A ½" socket wrench is required. See figure 23.

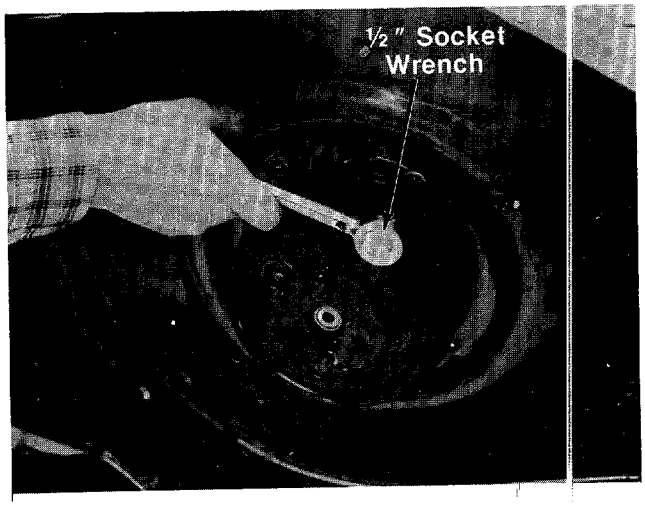


FIGURE 23.

12. Slide the blade brake/clutch cable through the hole in the deck as you lift off the engine and blade brake/clutch. Be careful not to kink control cable.
13. Remove blade brake/clutch from engine crankshaft.

Blade Brake/Clutch Installation

1. Place the new blade brake/clutch on engine crankshaft. Line up holes on blade brake/clutch with mounting holes on engine.
2. Place the two belleville washers onto crankshaft. Cupped side of washers must be against the blade brake/clutch. Secure with hex bolt finger tight only.
3. Place cable through engine mounting hole on deck.
4. Reverse steps 1 through 12 of preceding section for reassembly.

OFF-SEASON STORAGE

The following steps should be taken to prepare lawn mower for storage.

1. Clean and lubricate mower thoroughly as described in the lubrication instructions.
2. Refer to engine manual for correct engine storage instructions.
3. Coat mower's cutting blade with chassis grease to prevent rusting.
4. Store mower in a dry, clean area.

CAUTION

When storing any type of power equipment in an unventilated or metal storage shed, care should be taken to rust proof the equipment. Using a light oil or silicone, coat the equipment, especially the bearings and cables.

NOTE

The use of any accessory on this Rotary Mower other than those manufactured by the mower manufacturer is **not** recommended.

GRASS CATCHER Model 003 is available as optional equipment for the mower shown in this manual.

WARNING

1. DO NOT operate the mower without the entire grass catcher or chute deflector in place.
2. DO NOT operate the mower without the protective shield on the rear of the deck in place.

NOTE

Under normal usage bag material is subject to wear and should be checked periodically. Be sure any replacement bag complies with the mower manufacturer's recommendations.

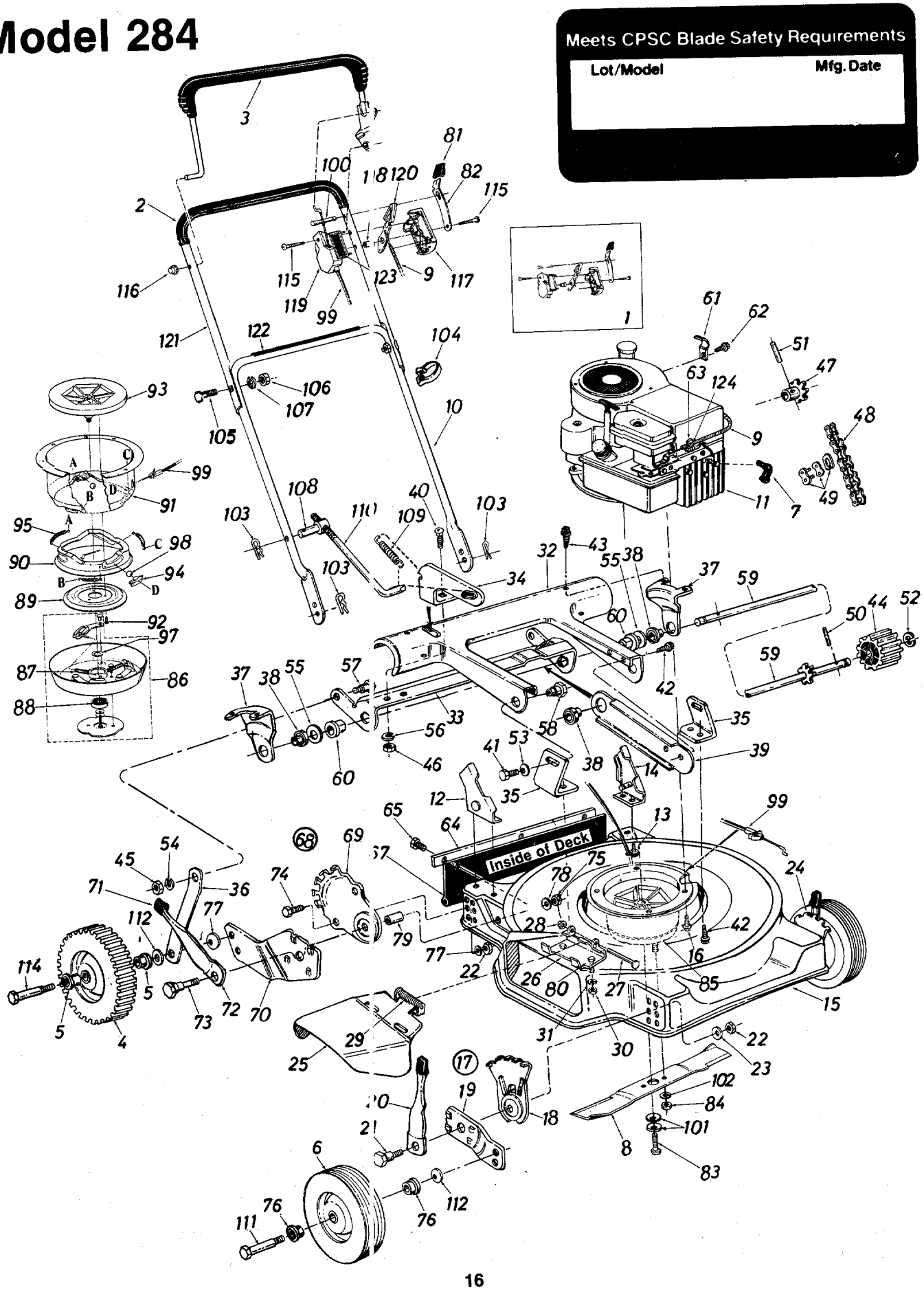
For replacement bags, use only factory authorized replacement bag No. 764-0176.

Trouble Shooting Chart

Problem	Cause	Remedy
1 Engine fails to start	A Check fuel tank for gas B Spark plug lead wire disconnected C Throttle control lever not in the starting position D Faulty spark plug E Carburetor improperly adjusted, engine flooded F Old stale gasoline	A Fill tank if empty. B Connect lead wire. C Move throttle lever to start position. D Spark should jump gap between control electrode and side electrode. If spark does not jump, replace the spark plug. E Remove spark plug, dry the plug, crank engine with plug removed, and throttle in off position. Replace spark plug and lead wire and resume starting procedures. F Drain and refill with fresh gasoline.
2 Hard starting or loss of power	A Spark plug wire loose B Carburetor improperly adjusted C Dirty air cleaner	A Connect and tighten spark plug wire. B Adjust carburetor. See separate engine manual. C Clean air cleaner as described in separate engine manual.
3 Operation erratic	A Dirt in gas tank B Dirty air cleaner C Water in fuel supply D Vent in gas cap plugged E Carburetor improperly adjusted	A Remove the dirt and fill tank with fresh gas. B Clean air cleaner as described in separate engine manual. C Drain contaminated fuel and fill tank with fresh gas. D Clear vent or replace gas cap. E Adjust carburetor. See separate engine manual.
4 Occasional skip (hesitates) at high speed	A Carburetor idle speed too slow B Spark plug gap too close C Carburetor idle mixture adjustment improperly set	A Adjust carburetor. See separate engine manual. B Adjust to .030". C Adjust carburetor. See separate engine manual.
5 Idles poorly	A Spark plug fouled, faulty, or gap too wide B Carburetor improperly adjusted C Dirty air cleaner	A Reset gap to .030" or replace spark plug. B Adjust carburetor. See separate engine manual. C Clean air cleaner as described in separate engine manual.
6 Engine overheats	A Carburetor not adjusted properly B Air flow restricted C Engine oil level low	A Adjust carburetor. See separate engine manual. B Remove blower housing and clean as described in separate engine manual. C Fill crankcase with the proper oil.
7 Excessive vibration	A Cutting blade loose or unbalanced B Bent blade	A Tighten blade. Balance blade. B Replace blade.

Note: For repairs beyond the minor adjustments listed above contact your local authorized service dealer.

Model 284


Meets CPSC Blade Safety Requirements
Lot/Model
Mfg. Date
Inside of Deck

Model 284 PARTS LIST FOR MODEL 284 ROTARY MOWER

REF. NO.	PART NO.	COLOR CODE	DESCRIPTION	NEW PART
1	753-0361		Kit—Control Housing Comp.	
2	718-0145		Grip	
3	731-0609		Control Handle Ass'y. Comp.—L.H.	
4	734-0880		Rear Wheel Ass'y.—Comp. 8 x 1.75	
5	741-0262		Rear Wheel Brg.—Plastic	
6	**		Front Wheel Ass'y.—Comp. 8 x 1.75	
7	735-0639		Spark Plug Boot	
8	742-0222		22" Blade	
9	746-0474		Throttle Control Wire—53.0"	
10	749-0522		Lower Handle (Chrome)	
	749-0521		Lower Handle (Painted)	
11	—		Engine	
12	14164		Handle Brkt. Ass'y.—R.H.	
13	710-0603		Hex Wash. Hd. "B"-Tap Scr. 5/16-18 x .50" Lg.	
14	14165		Handle Brkt. Ass'y.—L.H.	
15	14999		22" Deck Ass'y.	
16	710-0654		Hex Wash. Hd. TT-Tap Scr. 3/8-16 x 1.00" Lg.	
17	14578		Height Adj. Ass'y. Comp.—R.H.	
18	15261		Height Adj. Plate	
19	15262		Pivot Bar	
20	14832		Spring Lever w/Knob	
	732-0404		Spring Lever Only	
	720-0190		Knob Only	
21	738-0507		Shld. Bolt .500" Dia. x .375	
22	712-0798		Hex Nut 3/8-16 Thd.*	
23	736-0356		Bell-Wash. .39" I.D. x 1.4"	N
24	14579		Height Adj. Ass'y. Comp.—L.H.	
25	14944		Chute Deflector Ass'y. Comp.	
26	11130		Deflector Hinge Plate Ass'y.	
27	711-0555		Pivot Pin	
28	726-0106		Push Cap ¼" Rod	
29	732-0253		Torsion Spring	
30	712-0287		Hex Nut ¼-20 Thd.*	
31	736-0329		L-Wash. ¼" I.D.*	
32	14755		Pinion Pivot Cover 22"	
33	14756		Cam	
34	14758		Engagement Arm	
35	14759		Pivot Bracket	
36	14760		Link 4.58" x .88" Wide	
37	14757		Axle Brkt.	
38	741-0180		Flange Ball Brg. .500" I.D.	
39	14777		Brg. Support	
40	710-0167		Carriage Bolt ¼-20 x .50" Lg.*	
41	710-0168		Hex Bolt 3/8-16 x .50" Lg.*	
42	710-0352		Hex "B"-Tap Scr. ¼ x .38"	
43	710-0776		Hex Wash. Hd. AB-Tap Scr. ¼" x .62" Lg.	
44	731-0393		13 Teeth—Drive Pinion	
45	712-0267		Hex Nut 5/16-18 Thd.*	
46	712-0287		Hex Nut ¼-20 Thd.*	
47	713-0308		10 Tooth Sprocket Ass'y.	
48	713-0311		#48 Chain ½" Pitch 49 Links	
49	713-0116		Master Link	
50	715-0246		Spring Pin Spir. 3/16" Dia. x 1.25" Lg.	
51	715-0247		Spring Pin Spir. 3/16" Dia. x 1.00" Lg.	
52	716-0104		"E"-Ring For .500" Dia. Shaft	
53	736-0105		Bell-Wash. .400" I.D. x .88"	
54	736-0119		L-Wash. 5/16" I.D.*	
55	736-0160		Fl-Wash. .531" I.D. x .930"	
56	736-0329		L-Wash. ¼" I.D.*	
57	738-0155		Shoulder Bolt .437" I.D. x .162	
58	738-0529		Shoulder Nut .625" Dia. x .165	
59	738-0530		Pinion Shaft w/7 Tooth Sprocket	
60	741-0324		Hex Flange Brg. .506" I.D. Plastic	
61	12894		Casing Clamp	
62	710-0429		Hex "B" Tap Scr. #10 x .38" Lg.	
63	751-0369		Casing Clamp	N
64	14846		Retaining Strip	N
65	710-0776		Hex AB-Tap Scr. ¼ x .62" Lg.	
67	731-0575		Rear Flap Ass'y.	
68	14762		Rear Height Adj. Ass'y. Comp.—R.H.	
	14763		Rear Height Adj. Ass'y. Comp.—L.H. (Not Shown)	
69	14764		Index Plate	
70	14765		Pivot Bar—R.H.	
	14766		Pivot Bar—L.H. (Not Shown)	
71	720-0190		Spring Lever Knob	
72	732-0417		Spring Lever	
73	738-0528		Shoulder Bolt .500" Dia. x .433" Lg.	
74	710-0216		Hex Bolt 3/8-16 x .75" Lg.*	
75	712-0158		Hex Cent. L-Nut 5/16-18 Thd.	
76	**		Front Wheel Bearing	
77	736-0105		Bell-Wash. .400" I.D. x .88"	
78	736-0242		Bell-Wash. .345" I.D. x .88"	
79	750-0503		Spacer .383" I.D. x .503" O.D. x .562" Lg.	
80	710-0289		Hex Bolt ¼-20 x .50" Lg.*	
81	720-0190		Spring Lever Knob	
82	732-0401		Lockout Lever	
83	710-0818		Hex Bolt 3/8-24 x 2.00" Lg. (Grade 8)	
84	712-0328		Hex Nut 3/8-24 Thd. (Grade 8)	
85	717-0487		Blade Brake Clutch Comp.	
86	14300		Clutch Blade Housing Ass'y.	
87	732-0396		Compression Spring .35" O.D. x 2.00" Lg.	
88	741-0124		Ball Brg. .669" I.D. x 1.574"	

Model 284

PARTS LIST FOR MODEL 284 ROTARY MOWER (CONTINUED)

REF. NO.	PART NO.	COLOR CODE	DESCRIPTION	NEW PART
89	14304		Clutching Cone	
90	14305		Brake Cup Cone	
91	14307		Clutch Housing	
92	710-0875		Hex Tap L-Scr. ¼-20 x .75"	
93	719-0256		Fan Adapter	
94	731-0520		Ball Block	
95	732-0397		Extension Spring .35" O.D. x 1.75" Lg.	
97	736-0333		Fl-Wash. .690" I.D. x 1.060" O.D.	
98	741-0326		Steel Ball .500" Dia.	
99	746-0402		Clutch Cable—42.0"	
100	731-0607		Lock Pin .314" Dia. x 1.70"	
101	736-0105		Bell-Wash. .400" I.D. x .88"	
102	736-0169		L-Wash. 3/8" I.D.*	
103	714-0104		Intern. Cot. Pin 5/16" Dia	
104	726-0192		Cable Tie	
105	710-0671		Curved Carriage Bolt 5/16-18 x 1.38" Lg.	
106	712-0267		Hex Nut 5/16-18 Thd.*	
107	736-0119		L-Wash. 5/16" I.D.*	
108	711-0570		Ferrule	
109	732-0418		Extension Spring .38" O.D. x 2.10" Lg.	
110	747-0392		Engagement Rod	
111	738-0102		Shld. Bolt .448 Dia. x 1.450	
112	736-0192		Fl-Wash. .531" I.D. x .93"	
114	738-0144		Shld. Bolt .498" Dia. x 1.64	
115	710-0796		Truss Mach. Scr. #12 x 1.50" Lg.	
116	726-0135		Cap Speed Nut 5/16" Rod	
117	731-0523		Control Panel Half	
118	731-0524		Control Disc Pin	
119	731-0526		Clutch Panel Half	
120	731-0528		Throttle Control Lever	
121	749-0536		Upper Handle (Chrome)	
	749-0538		Upper Handle (Painted)	
122	777-3453		Instruction Label—Handle	
123	777-3456		Control Label—Throttle	
124	710-0227		Hex Wash. Hd. AB-Tap Scr. #8 x .38" Lg.	
—	731-0659		Engine Shroud (Optional—Not Shown)	
—	8284-000-4		Hardware Pack	

*For faster service obtain standard nuts, bolts and washers locally. If these items cannot be obtained locally, order by part number and size as shown on parts list.

(462—Red Flake)

When ordering parts, if color or finish is important, use the appropriate color code shown above. (e.g. Red Flake Finish—14005 (462).)

**WHEEL CHART

Wheel Assembly (8 x 1.75)					†Hub Caps (Optional)	
Smooth	Waffle Tread	Twinline Tread	Bearing	Axle Bolt	Color	Part No.
734-0843	734-0894	734-0661	Plastic—741-0262	738-0102	Red	731-0124
734-0845	734-0645	734-0643	3/8" Ball—741-0267	710-0427	Orange	731-0254
			1/2" Ball—741-0484		Black	731-0354
			Spacer—750-0434		Gray	731-0355

NOTE: The engine is not under warranty by the mower manufacturer...If repairs or service is needed on the engine, please contact your nearest authorized engine service outlet. Check the "Yellow Pages" of your telephone book under "Engines—Gasoline."

NOTE

This instruction manual covers various models and all specifications shown do not necessarily apply to your model. Specifications subject to change without notice or obligation.

PARTS INFORMATION

POWER EQUIPMENT PARTS AND SERVICE

Parts and service are available through the authorized service firms listed below. All orders should specify the model number of your unit, part numbers, description of parts and the quantity of each part required.

BRIGGS AND STRATTON, TECUMSEH AND PEERLESS PARTS AND SERVICE

Briggs & Stratton, Tecumseh and Peerless parts and service should be handled by your nearest authorized engine service firm. Check the yellow pages of your telephone directory under the listing **Engines—Gasoline,** Briggs & Stratton or Tecumseh Lauson.

NOTE: If any parts are found to be missing or defective upon assembly of this unit, write to advise the factory so that immediate replacement can be made.

ALABAMA	**BIRMINGHAM**	
Auto Electric & Carburetor Co.	2625 4th Ave. S.	35233
ARKANSAS	**NORTH LITTLE ROCK**	
Sutton's Lawn Mower Shop	5301 Roundtop Drive Box 368, Rt. 4	72117
CALIFORNIA	**PORTERVILLE**	
Billious	75 North D Street	93257
COLORADO	**DENVER**	
Spitzer Industrial Products Co.	6601 N. Washington St.	80229
FLORIDA	**JACKSONVILLE**	
Radco Distributors	4909 Victor St. Box 5459	32207
	OPA LOCKA	
Small Eng. Dist.	2351 N.W. 147th St.	33054
GEORGIA	**EAST POINT**	
East Point Cycle & Key	2834 Church St.	30344
ILLINOIS	**LYONS**	
Keen Edge Co.	8615 Ogden Ave.	60534
INDIANA	**ELKHART**	
Parts & Sales Inc.	2101 Industrial Pkwy.	46516
IOWA	**DUBUQUE**	
Power Lawn & Garden Equip.	2551 J.F. Kennedy	52001
LOUISIANA	**NEW ORLEANS**	
Suhren Engine Co.	8330 Earhart Blvd.	70118
MARYLAND	**TAKOMA PARK**	
Center Supply Co.	6867 New Hampshire Ave.	20912
MASSACHUSETTS	**SPRINGFIELD**	
Morton B. Collins Co.	300 Birnie Ave.	01107
MICHIGAN	**LANSING**	
Lorenz Service Co.	2500 S. Pennsylvania	48910
	MOUNT CLEMENS	
Power Equipment Dist.	340 Hubbard	48043
MINNESOTA	**HOPKINS**	
Hance Distributing Inc.	420 Excelsior Ave. W.	55343
MISSISSIPPI	**BILOXI**	
Biloxi Sales & Service, Inc.	506 Caillavet St.	39533
MISSOURI	**KANSAS CITY**	
Automotive Equip. Service	3117 Holmes St.	64109
	ST. JOSEPH	
Ross-Frazier Supply Co.	8th and Monterey	64503
	ST. LOUIS	
Henzler, Inc.	2015 Lemay Ferry Rd.	63125
NEW JERSEY	**BELLMAWR**	
Lawnmower Parts Inc.	717 Creek Rd.	08030
NEW MEXICO	**ALBUQUERQUE**	
Spitzer Eng. & Parts	1023 Third Ave. N.W.	87103
NEW YORK	**CARTHAGE**	
Gamble Dist., Inc.	West End Ave.	13619
	SCHOHARIE	
Red Fox Parts Dist.	Rt. 30 P.O. Box 527	12157
NORTH CAROLINA	**GOLDSBORO**	
Smith Hardware Co.	515 N. George St.	27530
	GREENSBORO	
Dixie Sales Company	335 N. Green	27402
OHIO	**CARROLL**	
Stebe's Mid-State Mower Supply	Box 366, 71 High St.	43112
	CLEVELAND	
Bleckrie, Inc.	7900 Lorain Ave.	44102
	WADSWORTH	
National Central	687 Seville Rd.	44281
	YOUNGSTOWN	
Burton Supply Co.	1301 Logan Ave. Box 929	44501
OKLAHOMA	**MUSKOGEE**	
Victory Motors, Inc.	605 S. Cherokee	74401
OREGON	**PORTLAND**	
Kenton Supply Co.	8216 N. Denver Ave.	97217
PENNSYLVANIA	**HARRISBURG**	
EECO Inc.	4021 N. 6th St.	17110
	PHILADELPHIA	
Thompson Rubber Co.	5222-24 N. Fifth St.	19120
	PITTSBURGH	
Bluemont Co.	11125 Frankstown Rd.	15235
	PUNXSUTAWNEY	
Frank Roberts & Sons	R.D. 2	15767
	SCRANTON	
Scranton Auto Ignition Co.	1133-35 Wyoming Ave.	18509
TENNESSEE	**KNOXVILLE**	
Master Repair Service	2000 Western Ave.	37921
	MEMPHIS	
American Sales & Service, Inc.	3035-43 Bellbrook	38116
TEXAS	**DALLAS**	
Marr Brothers, Inc.	423 E. Jefferson	75203
	FORT WORTH	
Woodson Sales Corp.	1702 N. Sylvania	76111
	HOUSTON	
Bullard Supply Co.	2409 Commerce St.	77003
	SAN ANTONIO	
Engine House Inc.	8610 Botts Lane P.O. Box 17867	78217
UTAH	**SALT LAKE CITY**	
A-1 Engine & Mower Co.	439 E. 900 So.	84111
VIRGINIA	**ASHLAND**	
RBI Corp.	101 Cedar Ridge Dr.	23005
WASHINGTON	**SEATTLE**	
Bailey's Inc.	1414 14th Ave.	98122
WISCONSIN	**APPLETON**	
Automotive Supply Co.	123 S. Linwood Ave. P.O. Box 798	54911
	CHILTON	
Horst Dist.	444 N. Madison	53014

WARRANTY PARTS AND SERVICE POLICY (0783)

The purpose of warranty is to protect the customer from defects in workmanship and materials, defects which are NOT detected at the time of manufacture. It does not provide for the unlimited and unrestricted replacement of parts. Use and maintenance are the responsibility of the customer. The manufacturer cannot assume responsibility for conditions over which it has no control. Simply put, if it's the manufacturer's fault, it's the manufacturer's responsibility; if it's the customer's fault, it's the customers's responsibility.

CLAIMS AGAINST THE MANUFACTURER'S WARRANTY INCLUDES:

1. **Replacement of Missing Parts** on new equipment.
2. **Replacement of Defective Parts** within the warranty period.
3. **Repair of Defects** within the warranty period.

All claims MUST be substantiated with the following information:

1. **Model Number** of unit involved.
2. **Date** unit was purchased or first put into service.
3. **Date of failure.**
4. **Nature of failure.**